

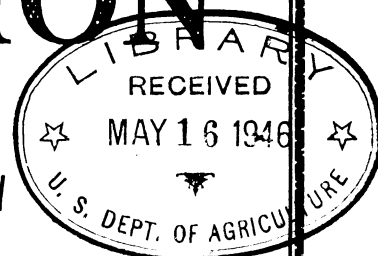
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The EXTENSION ANIMAL HUSBANDMAN



**UNITED STATES DEPARTMENT
OF AGRICULTURE
WASHINGTON,
D.C.**

UNITED STATES DEPARTMENT OF AGRICULTURE

Washington, D. C.

THE EXTENSION ANIMAL HUSBANDMAN

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C. D. Lowe, Senior Extension Animal Husbandman,
K. F. Warner, Senior Extension Meat Specialist.

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ANNUAL PLANS OF WORK

A Review of Reviews

The most pleasant thing about reviewing a plan of work is to find that it really reflects the excellent program that is being carried out in a State. That has been usually the case. Only occasionally has it been necessary to call on the reviewer's personal knowledge to visualize the productive animal husbandry activities in a State.

The completeness of the plans submitted this year appears due partly to the outline that all workers have been requested to follow. It also roots in the fact that no extension man, today, can proceed properly without a thorough survey of his local situation, a careful selection of the problems to be handled and a definite decision as to the people and organizations with which he can cooperate most effectively.

Some of the plans included a more analytical statement of the situation than did others. Routine census figures (or better, trends) were common to all but some of the writers went on to pull out the special problems that needed current attention. Better sires, balanced rations, and proper management are perennial activities in extension animal husbandry. Sanitation, feed production, marketing, and others could be added to this list. Combined with these familiar problems, however, are often new ones or new phases of old ones that need especial emphasis. This current problem has been seized by some and used to lend variety and to give a new approach to the old job.

Drought in some of the Great Plains States has swung the emphasis to trench silos, cane and kaffir production, pasture rotation, water conservation, etc. No drought security program, however, would be complete that did not include improvement in the productiveness of the animals so laboriously fed. The use of good sires, a strict culling of the herd, disease prevention, and marketing at a finish and in a way to bring greatest net returns are all a part of drought resistance.

Unsatisfactory milk prices have created a need in some of the dairy States for a more diversified use of the crops, equipment, and labor available. Fitting a fatted calf into those dairy barns is a current service and an excellent means for teaching proper management.

Dipping and drenching sheep and making "thrifty pigs" is the vehicle used by several States to renew interest in breeding, feeding,

and marketing. Conversely, the marketing of standardized lambs and wool has been the means of interesting flock owners in dipping and drenching.

Where the annual migration of tenants and limited credit for livestock are stumbling blocks to needed animal husbandry work the development of a modest home-raised meat supply has been used as the entering wedge.

Cooperation with local State and National programs and organizations has put new force and meaning into range utilization, pasture development, and all land-use plans. Lumber companies, drug stores, locker plants, and the like have been enlisted to further the use of practical shelters, the vaccination for sleeping sickness, and the production and conservation of a home-raised meat supply.

Fastening the responsibility of the livestock program to the community or county discussion and planning groups has often been the answer to the twin problems of the extension man - what and how? A number of States are using this more or less directed leadership effectively.

In several cases the problems raised in these local discussion groups have had to be passed on to the experiment station for research attention. When the answer has been found and carried back to those who asked the question no teaching problem is involved. Attention and acceptance are almost automatic.

If one were to apply a general criticism to the currently reviewed plans it would be that they were too often a routine treatment of well-worn project activities. That must always be partly so. Where it is possible to select some certain need for current emphasis by a not too familiar method, more life and interest can be added to the program. Ideas like ton litters, lamb docking, bot eradication, and 4-H ham shows can't be originated or used every year. When available, however, they add to the effectiveness of animal husbandry extension programs.

Most of the plans do not show the close relationship that actually exists between the livestock men and the specialists in other lines. The closer we come to a true family program the more necessary it becomes to fit animal husbandry into the farm or home management, nutrition, engineering, crop, soil, entomology and other programs. Farmers must consider their farm as a whole and we should have a viewpoint that is equally broad. --The Editors.

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The greatest thing a human soul ever does in this world is to see something and tell what he saw in a plain way. --John Ruskin
-----oOo-----

PERSONAL NOTES

Arizona

John T. Rigden, a graduate in agriculture of the University of Arizona, and with several years experience with range problems, was appointed extension animal husbandman for the State extension service on November 1, 1938.

Georgia

Chas. E. Bell, Jr., has been appointed extension swine specialist to succeed Jones Purcell, resigned. Mr. Bell will give special attention to the southern part of the State with headquarters at Tifton.

Illinois

H. P. Rusk, head of the animal husbandry department of the University of Illinois since 1923, has been appointed dean of the college of agriculture and director of the experiment station and of extension service at the same institution, effective September 1, 1939.

New York

J. D. Burke, of the State extension service staff, is handling the meat and work-stock phases of the animal husbandry program in addition to other work.

North Dakota

James D. Gannaway, formerly of the college and station staff, has been appointed extension animal husbandman to succeed Roy L. Olson.

Ohio

Charles S. Plumb, head of the animal husbandry department of the Ohio State University from 1902 to 1931, and well-known author and scientist, died March 4, 1939 at the age of 79.

Tennessee

C. C. Flanery, former sheep specialist at the University of Tennessee and more recently chief of the division of markets of the State Department of Agriculture, has been elevated to the position of Commissioner of Agriculture with headquarters at Nashville.

-----OoO-----

The fundamental purpose of any educational enterprise is to teach persons how to think, not what to think. --M. C. Burritt

-----OoO-----

Education, after all, is simply the fitting of the eye to see; of the hand to work, of the mind to perceive the truth; of the tongue or pen to express it; and it is by the practice of all of these that we educate ourselves and become strong, clear-headed men.

-----OoO-----
--Uncle Henry Wallace

WHAT TEXAS IS DOING

(We are pleased to present a three-chapter contribution from the Texas extension animal husbandmen regarding some of their activities, which we are sure will be read with interest. --The Editors).

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4-H SWINE CLUB DEMONSTRATIONS

We believe that if farmers in the cotton-growing section of Texas are to become thoroughly livestock minded, it is important that we give special emphasis to work with boys because in the very near future, they will be the farmers of Texas. For this reason, special emphasis has been given the pig-club work with these boys. Our greatest success has been with demonstrations which incorporated all phases of commercial hog production.

The five major principles on which the work is based, are as follows: (1) That hogs of good breeding are more profitable than scrub hogs; (2) that the profitable production of hogs depends largely upon the production of surplus grain feed on the farm; (3) that the maximum profit cannot be made out of hogs unless the greatest possible use is made of hog pastures; (4) that a farmer must produce his own feeder pigs if he is going to have the proper supply of good feeder pigs available at the time when he needs them; (5) that to make a success of the hog business, a farmer must know all the details of the business and must give careful attention to each of them.

We start the boys by placing with them sow pigs of weaning age. We buy a large number of such pigs from a good breeder and by doing this we get the pigs at a wholesale price. These pigs are then distributed to the boys in the county who wish to conduct a swine demonstration. The boys raise these pigs under the direction of the county agent. When the gilts are six months old we hold a special pig show in which these pigs are exhibited. These county pig shows are of a one-day duration and the show is usually held in temporary pens on the courthouse square or on the pavement of the main street of the town. Prizes need not be large but much interest is stimulated among the boys, their parents, and the neighbors by such shows.

When the gilts are about eight months old they are bred to a good boar. During the first summer the boys are required to build a good water trough, a good feed trough, a hog pasture, a good shade, and are required to grow a grazing crop for the pigs. A large percentage of the boys also plant a few acres of grain feed. During the

following winter the boys are required to build a good movable hog house, a self-feeder, and are required to grow a winter grazing crop. The following spring the gilts farrow and at this time the boys have an opportunity to employ and learn all the details connected with successfully raising a litter of pigs.

When the pigs are about three weeks old the sow and the entire litter are placed on a self-feeder. One compartment of the feeder is filled with threshed grain sorghums or shelled corn, a second compartment of the self-feeder is filled with a protein supplement of equal parts of cottonseed meal and tankage, and a third compartment of the feeder is filled with a mineral mixture consisting of three parts bone meal and one part of salt. The sow and litter are allowed to have free access to the feeder at all times and at the same time are running on a good pasture. At eight weeks of age the sows are removed from the lot, the pigs are thereby weaned, and the pigs are allowed to stay right on the self-feeder and pasture until they reach a market weight of 200 to 250 pounds, at which time the pigs are sold on the market. The sows are immediately rebred for a second litter.

There are four contests provided for the boys:

- (1) A pig show when the pigs are six months old.
- (2) A number of prizes for the boys who have provided the best-equipped hog farm. In this contest each farm is visited. The water trough, the feed trough, the shade, the pasture, the record books, and all details of management are scored.
- (3) A contest in which awards are made for the boy who raises the heaviest litter when eight weeks old, the heaviest average weight per pig when eight weeks old, and the heaviest single pig.
- (4) A market-hog show when the litters are six months old. This show is of a one-day duration in which all the boys bring in their finished market hogs. The hogs are judged in individual classes, in pens of three, and in whole litters. Immediately after the show all the hogs are loaded on trucks, the boys, their fathers and adult leaders are loaded in school busses and the entire caravan moves to a central market. At the central market the boys, their fathers, and adult leaders are guests of the market for 24 hours. The hogs are sold at their true value and the boys are given an opportunity to see how hogs are sold and handled on a public stockyard. They also make a trip through the packing house and through the offices of commission firms. Banquets and other entertainment features are provided. After the trip to the public stockyards the boys return home and with the next litter farrowed the same activities are repeated.

Our experience has been that contests in connection with demonstrations that involve all phases of hog production are very valuable in that they stimulate interest among the boys from the time that each boy buys the baby pig until the time when he has a litter of pigs for sale. The prizes need not be large because the boys are about as much interested in trying to outdo each other as they are in the actual value of the prizes.

A program of the above sort is now under way in approximately 50 Texas counties and in each of these counties from 10 to 100 registered-sow pigs have been placed with the boys and the boys are carrying the full program.

--E. M. Regenbrecht, Extension Swine Husbandman

BEEF CATTLE WORK

The Texas Extension Service through the county agents has a sympathetic understanding and an interest in cooperating with the beef-cattle producers of the State. No better example of the results of such cooperation and its far reaching effects could be cited than the activities in fitting and finishing 4-H club calves, and in developing feeding demonstrations among farmers, thus showing that Texas can finish cattle as well as produce feeders and stockers.

The county agents operating in 252 counties in Texas openly avow that anything which is of economic good for the farmers of the State as a whole is also of interest to the beef-cattle producer. For the last 25 years the county agents have concerned themselves actively with the problems confronting the beef-cattle man and how they could best serve in solving these problems. Looking forward the county agents began by engaging in a new activity or new phase of beef-cattle activity for Texas, the feeding and finishing of calves and steers. A study of conditions showed that Texas was shipping about 3 million head of feeder cattle annually to be finished in other parts of the country. In parallel with this situation was the fact that the State had every natural condition necessary for the feeding of beef cattle as well as for breeding them, climatic conditions, and an abundance of grain sorghums, corn, cottonseed meal, and silage.

They started out in a small way with 4-H boys feeding a calf and showing this calf at a county club achievement day. The interest was there and it continued to grow until the Southwestern Exposition and Fat Stock Show at Fort Worth put on special classes for boys' calves. The 4-H calf work became so popular that ten district shows were organized, exclusive of the show at Fort Worth. County shows were held in 51 counties this past year before the calves were sent to district or State shows.

Two counties in the State, which have been doing extensive 4-H calf feeding, have perfected special organizations that sponsor this work in the county and have arranged to show these calves at the county seat each year where small premiums are offered. The calves are then loaded on the train and shipped to a central market as any commercial feeder would do.

Commercial feeding among 4-H club boys in which from 5 to 30 head of calves are fed by one boy is developing rapidly. This type of feeding does not in any way interfere with the boys who desire to feed calves for show competition within the State nor with those boys who desire to compete in the larger shows in other States. During the 1938-39 feeding period, 4-H boys from Texas exhibited club calves at the American Royal at Kansas City; the "International" at Chicago; the Fat Stock Show at Denver; the Fat Stock Show at Ogden, Utah; the Golden Gate International Exposition, San Francisco, Calif.; and the Arizona Livestock Show at Tucson. The records made at these shows have been given wide and national publicity and do not need to be repeated here.

The feeding of calves by the boys has been so successful and attracted so much interest that the county agents during the 1938-39 feeding period supervised feeding demonstrations among adult farmers involving 105,000 head of cattle. This number was being fed by 1,721 farmers, an average of about 61 head to the feedlot. This of course does not include all the cattle being finished in Texas but shows the extent to which the county agents are supervising demonstrations in cattle feeding.

Interest in trench silos again increased last year with 9,483 filled in 1937 and 17,048 in 1938. This year there will be another large increase in trench silos and the county agents are looking forward to a big increase in cattle feeding during the 1939-40 feeding season. -- Geo. W. Barnes, Extension Animal Husbandman.

SHEEP AND GOAT WORK

Texas is in the sheep and goat business in a big way. A true picture of these industries would show considerable expansion since 1935 when the census figures credited Texas with 15 percent of the total sheep population of the United States and producing 83 percent of the mohair.

The majority of producers are experienced operators but the expansion, which has been continuous since 1920, has brought new men into the business. The expansion has involved both range sheep and farm flocks.

The range sheep raisers, some ten thousand in number, have a strong organization which is active in support of what the growers conceive to be their best interests. This organization sponsors a ranch experiment station, also a wool scouring plant and related activities. The farm flock owners are unorganized except for a co-operative wool marketing enterprise now in its infancy.

The range sheep (and 90 percent of the sheep of the State are range raised), are of the fine-wool breeds with Rambouillet predominating. The wool is sold through a system of warehouses and is prepared on the ranches in original bags for marketing.

Although part of the range area of the State still carries many aged wethers, most of the sheep business is on a ewe and lamb basis. After supplying the local demand for replacement purposes more than a million feeder lambs (some grass fat), go out of the State annually.

The extension program with sheep has dealt largely with the control of stomach worms; with feeding problems, both those of an emergency nature in times of drought as well as those which exist normally; with flock improvement; and with better preparation of wool for market.

Drenching sheep for stomach worms is not new but the carrying out of a systematic year-round drenching program was not practiced by the ranchmen until the county agents carried out numerous demonstrations to show its value. Through such demonstrations the sheep raisers have been kept up to date on material to use and on methods of treatment.

The flock improvement demonstrations have been based on the findings of the U. S. Department of Agriculture and State institutions, that length of staple is closely associated with high shearing weight. Demonstrations are under way involving bands of ewes selected primarily for length of staple and bred to rams selected on the same basis. These units serve as a source of ewe lambs for replacement purposes. The shearing weight of the lots serve as a continuous demonstration of the importance of length of staple in wool production.

A 4-H Wool Show is held at Sonora, Texas. An exhibit consists of a bag of wool (20 fleeces taken at random from the ewes of breeding age). Premiums are offered for the most valuable bags of wool and for the best demonstration record books. Two shows have been held and the idea appeals to ranchmen and boys, warehouse men, and wool buyers. It gives the boys of the range sheep production area a show, sale, and trip in connection with a practical type of demonstration.

Goat lice materially reduce the weight of the shorn fleece and lower its quality. The Bureau of Entomology in cooperation with the Texas Experiment Station made a contribution to the goat industry in finding a new dip, also in developing new type of dipping equipment. Sulphur of a certain fineness (325 mesh) used at the rate of 10 pounds per 100 gallons of water as a dip was found to be efficient and offers possibilities of eradication with few dippings. With the cooperation of the producers of sulphur the county agents have established goat lice control demonstrations in all the counties of the goat producing areas.

The same dipping equipment and material are being used in dipping sheep for lice and ticks.

The sheep and goat specialist has not been a party to any programs calculated primarily to promote expansion but rather, to make the best better. --W. R. Nisbet, Extension Animal Husbandman.

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SWINE INVESTIGATIONS

* * * Additional data were obtained at Beltsville, Md. on small, intermediate, and large types of Poland China hogs. Both spring and fall litters were obtained for the three types, and all pigs were weaned at 70 days of age. All hogs were fed to the same degree of finish, the small type averaging 141 pounds when slaughtered, the intermediate type 211, and the large type 255. The average daily rates of gain were 0.88, 1.22, and 1.21 pounds, respectively, for the three types. Feed requirements to final weights were 404, 403, and 413 pounds per 100 pounds of gain. * * *

Studies were continued at Beltsville on the effect of supplementary feeding of protein-rich feeds to pigs 3 weeks of age at the beginning of the experiment and fed for 11 weeks. Three groups of sows and litters, including both spring- and fall-farrowed pigs, were tested. All groups had free access to self-feeders containing a standard ration. In addition to this ration, the pigs in one group had free access to skim milk placed in a creep and another group had tankage in a creep. The remaining group was used as controls. At weaning, the pigs receiving skim milk were heaviest in weight, those receiving tankage were next, and the controls were lightest. From weaning to final feed-lot weights the average daily gains per pig were 1.52, 1.40, and 1.37 pounds, respectively, for the groups receiving skim milk, tankage, and no supplement, and the feed requirements per 100 pounds of gain were 343, 353, and 358 pounds respectively. On the average, pigs receiving skim milk reached final feed-lot weight 2 weeks earlier than those in the other groups. These results confirm those of earlier tests and indicate the value of skim milk for maximum growth and economic gains during the suckling and growing periods. * * *

--Report of the Chief of the Bureau of Animal Industry, 1938.

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OHIO IMPROVES BEEF CATTLE HERDS

By L. P. McCann, Extension Animal Husbandman,
Ohio State University.

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Dr. Lowe asked me to submit something about our animal husbandry program in Ohio for this issue of The Extension Animal Husbandman. In searching about for something which might be of interest I decided to make this story hinge around an incident in which he was personally concerned.

Early in May of 1938 Dr. Lowe spent several days in Ohio reviewing our animal husbandry extension projects. As we were coming in from a field trip in the northwestern part of the State late in the afternoon, our attention was attracted to a Hereford bull grazing in a pasture along the highway. Until we saw this bull we had been discussing the tour in which we had taken part that day. Apparently we both noticed the bull at about the same time, because the conversation between us stopped and no further word passed until I had brought the car to a complete stop. We both continued to look at the bull for a few seconds, then Dr. Lowe looked at me and said: "Do you see what I see?" I replied that I saw what appeared to be an unusually fine Hereford bull and that I wondered if he thought he was as good a bull as I thought he was.

The result was we agreed that standing there before us in a rather small pasture was a Hereford bull of exceptionally good type. He was blocky, compact, low-set, straight in his lines and balanced from end to end. At a filling station nearby we learned the name of the owner and in later correspondence and personal interviews I learned the history of this bull. His owner, Jesse Grant of Defiance, Ohio, had bought the bull from Orleton Farms, London, Ohio, and at the time we saw him he was just three years old.

To my great surprise I learned that the Ohio State University, had previously leased this bull from Orleton Farms and kept him in service for a few weeks in the University herd while awaiting the delivery of another one already purchased. The details of the purchase of this bull by Mr. Grant from the Orleton Farms was highly interesting to me since Dr. Lowe and I both agreed that he was an exceptionally fine individual. Mr. Grant went to Orleton Farms with the idea of paying around \$150 for a bull to use on a herd of grade cows. While he was being shown different bulls, priced at the figure

he wanted to pay, the manager took him past the stall in which this bull was standing. Mr. Grant asked the manager if he would lead out this bull for inspection, which the manager gladly did. But as he did so he mentioned the price at which this bull was held, in order that there might be no misunderstanding. It was \$350.

After looking him over carefully and being favorably impressed he wrote out a check for this amount and asked to have the bull delivered to his farm. In discussing the matter with Mr. Grant later, he gave this as his reason for paying that price for a bull to use on his grade cows:

"After looking over all the bulls they had to offer at the price I intended to pay, and then getting a look at this bull I decided that he was a better investment at \$350 than any of the \$150 bulls that they had shown me."

This story is repeated not with the idea of leading readers to believe that all beef bull buyers in Ohio are interested in paying such prices in order to get good bulls for their cow herds. However, it is told with the idea of showing ~~what~~ the trend is in beef breeding within this State. Ten years ago relatively few farmers were interested in raising beef calves. They had long ago concluded that the breeding and raising of commercial beef cattle was confined to the range country and that Ohio was a finishing State and nothing else, so far as beef cattle were concerned. Within the past five years this picture has changed and it has changed to such an extent that beef breeding herds are now found in every county of the State. Unsatisfactory milk prices have been a contributing influence and the abundance of pasture and hay under the new soil conservation program is another factor that has been important in this change.

In 1938 one purebred beef breeder within the State, who maintains a herd of approximately 100 cows, sold all the bulls of his own breeding and in addition two carloads of bulls brought in from outside the State to the owners of commercial herds. While there is a wide demand for beef bulls, there are still too many who have not reached the discriminating stage of selecting only those bulls of good type as was done by Mr. Grant in the above instance.

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DO UNTO ANIMALS--

Do Unto Animals-- is the title of a new motion picture recently released by the Department. It has to do with the prevention of livestock shipping losses and was produced in cooperation with the National Live Stock Loss Prevention Board. It is a two-reel sound picture and available in 35 mm and 16 mm. widths. A limited number of copies are available from the Department on a loan basis to responsible parties. Prints may also be purchased. In the 16 mm. width the cost is approximately \$19.25 and for the 35 mm. width \$40. Address all communications to Extension Service, U. S. Department of Agriculture, Washington, D. C.

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HUMAN CHARACTERISTICS WE MUST OBSERVE IN EXTENSION WORK

In our extension work subject matter means comparatively little until we can hitch it to some human want, interest, attitude, or emotion. To do this the teaching tools which we use must appeal to some characteristics of the individual. If his situation is such that he is annoyed and if what we present contributes still more to his annoyance, the subject matter has fallen flat but if, through our consideration of his annoyances, what we give of subject matter removes them and sets up a satisfaction in his mind and causes a change in his act for his betterment, then we have taught him something, for teaching must be measured in terms of acts and attitudes.

The great variety of teaching tools is for the purpose of setting up these changes through recognizing wants, particularly through three different avenues--the eye, the ear and the hand. Every teaching tool we use can be classified under one of these three: a talk with word pictures for the ear; a circular letter or bulletin and exhibit with their pictures and drawings for the eye. Any form of expression in which the hand, or even the whole of the body takes place, is an appeal to the hand or to any of the tactile nerves and muscles. This in part, develops confidence as to manipulation. We say of the colt which has learned to be guided because of a pull on the right or left of the bit that he is "bit wise" or that he has been broken. So it is with participation or with manual mindedness, we learn by putting our nerve and muscular system into the performance. Try classifying all of the tools you use under the three heads referred to above.

Now, there are about five characteristics of human nature that we have to overcome. Each one of them or a combination of any of them seems to be nearly insurmountable. These are fear, prejudice, tradition, superstition, and habit fixation. Fear develops in one when he thinks that he may not know as much as someone else, that he will be thought a "book farmer," or that he may be jeered or smiled at if he accepts some new practice. Prejudice comes because of his thought that any sort of poison bait may kill the birds, that the livestock may die from eating bait, or that some neighbor has said the material is not worth anything anyway. Superstition reigns when the time of planting or any control measure must be regulated by the moon or other signs. Tradition plays its part when people pride themselves on living in a locality that never carried on certain practices or when they think "the Lord will provide." Fixation of habit is one of the very strongest to be overcome because we direct our acts in keeping with nerve and muscular ease, and to acquire a new habit time and patience and much effort are required to replace the old growth with the new. Correct subject matter is necessary but without due consideration of the interesting characteristics referred to above, it may be like the proverbial water on a duck's back.

--A.B.Graham, formerly in charge, subject-matter specialists, U.S.D.A.

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A WISCONSIN SHEEP IMPROVEMENT IDEA

By James Lacey, Associate Professor of Animal Husbandry,
University of Wisconsin.

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To have specific information on the improvement that is made from year to year among the sheep producers of Polk County, Wis., county agent Marquart has designed a plan that will give such data on practically all flocks in the county every year. Mr. Marquart is cooperating with the Wisconsin College of Agriculture and livestock marketing agencies in the educational work required for improved production practices.

With ten vocational agricultural instructors in the county, the county agent has divided the territory into ten local areas and made a vocational instructor leader in each area. The leader will be responsible for the enrollment of all flock owners in his district. An enrollment card, on which is recorded the flock history for 1938, is filled out for each flock entry this spring. The flock history includes the breed and number of ewes, the breed and type of ram, the story of winter feeding and care, parasite-control measures, the number of lambs produced, the lamb-production practices such as docking, castrating, creep feeding, etc., the weight and grade of wool, the weight and grade of lambs when sold, and the efficiency of the ewes in the flock, based on pounds of lamb per ewe produced per season.

On or before October 15, a record card for the 1939 production will be completed by the vocational instructor for each enrolled flock. This record card will also be the source of information for the 1940 entry, and for the comparison that will be made next year between 1939 and 1940. In some cases there will be changes in sizes of flocks and in breed of ram which will necessitate corrections for next season. The vocational agricultural teachers are making farm to farm visits for enrollment purposes, and are getting the reports from flock owners, first hand.

To stimulate interest a series of cash prizes has been established for the districts which show the greatest percentage of improvement. A committee on awards, composed of the county agent, a representative of the College of Agriculture, and representatives of the wool and livestock marketing agencies, has been established which will determine the ratings of the various districts. Awards will be made on the weighted values of the following practices:

1. Creep feeding15%
2. Docking and castrating20%
3. Drenching for parasite control....20%
4. Dipping for tick control20%

5. Average production of lamb per ewe. 10%
6. New purchasers of purebred rams ... 15%

As a climax to the year's work, all participating flock owners will be guests at a county-wide banquet each fall. The award money to winning districts will be used for educational work directed by the association of vocational agriculture instructors which was organized in the county two years ago.

Polk County has 9,200 sheep on its 4,500 farms, and while the income from sheep is relatively small, Mr. Marquart feels that sheep numbers may be increased through the interest developed in record keeping. The county is well adapted to sheep production, with 51.9 percent of its farmland in pasture. An excellent outlet for lamb is offered to sheep producers through the So. St. Paul market. Wholehearted support of this sheep improvement plan has been received from growers and marketing agencies and we expect to use it in an additional number of counties.

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BACON COMPOSITIONS

The percentage of lean in the cross-section cut of bacon was determined in a comparative study of 47 Danish Landrace, 53 Poland China, and 48 Duroc-Jersey hogs produced at Beltsville, under uniform feed and management conditions. Average type was the same in all three groups, and the animals were slaughtered as they individually reached a weight of approximately 225 pounds. All bacons were cross-sectioned at the sixth rib, photographed, and with a planimeter the areas of the total cross section and the lean portions were measured on an enlargement of the photograph. Calculations from the data obtained showed that on the average the Landrace bacon contained 26.7 percent of lean, the Poland China, 24.0 percent, and the Duroc-Jersey, 21.3 percent. These results are of particular interest when it is considered that in thickness of back fat and percentage of fat, including back, leaf, and cutting fat with plate, the Landrace carcasses were intermediate, the Duroc-Jersey highest, and the Poland China lowest. --Report of the Chief of the Bureau of Animal Industry, 1938.

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SPECIAL PUBLICATIONS

1939 Pasture-Forage-Livestock Program Handbook -- A 41-page printed and mimeographed publication available from the Nebraska Agricultural Extension Service, College of Agriculture, Lincoln, Nebr.

1939 Livestock Improvement Campaign Field Workers' Blue Book -- An 87-page mimeographed publication prepared by the Office of Animal Husbandry Extension, West Virginia University, Morgantown, W. Va.

The Red Book -- A 6-page mimeographed publication containing the standards and methods for recording results of animal husbandry extension work by counties - prepared by the Office of Animal Husbandry Extension, West Virginia University, Morgantown, W. Va.

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FOOD IS FIRST

My sister, her husband and I were discussing farm problems around the brightly lighted, well-burdened reading table in their farm home. The talk had led to the need for cash and the inadequacy of current farm income - to the recent report of the National Resources Board which showed that over half the farm families in the United States received a gross income of less than \$1,000 per year. With the positive hindsight of an average spectator, I had been propounding the need for a more self-sufficing type of agriculture. I had decried the swing toward a buying economy wherein farmers traded their work for cash, buying back their needs even to food and power.

Perhaps I had laid it on a little thick. Finally my sister asked:

"You think we should go back, then, - back to the spinning wheel and soap kettle, back to the wilderness?" (Sisters are like that). No answer was given to my sister's question then. It seemed to deserve something better than snap judgment. But I am ready to answer it now and the answer is - "Yes. Farm families should go back, back to the principles of the pioneer. It is their best and safest way. For many it is the only way."

That statement needs qualification, of course. Every extension man has learned the need for qualifying his remarks and in this case I hasten to admit the numerous variations and exceptions to the rule. But granting them, I still believe that "going back" is the surest means by which farm families can move ahead.

The city and the country are different and city living and country living are different. Each has its natural advantages and its disadvantages. Trying to combine all the advantages of both in one home is an unnatural arrangement and is pretty apt to fail.

For example, one of the advantages of the city is that concentrated population makes possible the economical possession and use of city water, electricity, gas, sewer, paved roads, and community amusements. Any or all of these can and have been made available to farm families but the cost of installation and use is always higher. Modern homes and frequent trips to the theater, church, or county fair are just as well earned and needed by rural folks as by city dwellers but they cost the farm people more.

One of the advantages of the country is the atmosphere in which the family lives. Define "atmosphere" both ways and the statement still stands - (1) Fresh breezes and sunshine, in contrast to

the shadowed, city canyons filled with thrice-used air, or (2) the clamorous elbowing of unknown neighbors in contrast to the teaming silence of familiar growing things. There are those who prefer the jostle of the crowd, the daily-hourly effort to beat the other fellow to whatever it is they want. But the things that sharpen the wits in social competition dull the perceptions that full living needs. Exceptions? Yes, by the score, but the facts remain and city folks know it too. Gardens, parks, week-end drives, camps and expansive estates all prove man's need for contact with mother nature. City folks can have that contact too, but country homes cost them more than they do the farmer.

We hear much about the independence and freedom of the farmer's mode of living. Maybe it's so - in part. Farmers have no one to scold them if they are late to work or to cut their pay if they don't reform but they do hear reproachful complaints from full-bagged cows when they oversleep and receive shortened milk checks if they do it frequently.

City business men must eternally "hit the ball" if sales are to be maintained, collections made, and costs kept within due bounds. A farmer's task may not be so driving but did you ever see the grass creep down a neglected corn or cotton row or notice the ripened wheat shatter from the heads while waiting for a tardy binder? Or pitch woody, dusty hay that had been cut some days too late? The job is as inexorable in the country as in the town but there is more freedom, some kinds of freedom, on the land.

Freedom of choice or of decision is one of the main privileges of the farm - one of the chief advantages of farm life over city life - one of the reasons why it takes such an able self-disciplined man to be a good farmer. Freedom of choice is no asset to a man who needs a boss to make him do the proper thing. One of the choices that each farm head must make is to adopt the plan of farming that will make most use of the advantages naturally inherent in farming and to refuse to be handicapped by exhausting efforts to capture all the advantages of the city as well.

One strategic advantage of the farm that the farm head should see and use is that his family can have food regardless of the economic shocks that lower cash receipts. Come boom or depression, come peace or war, farm folks can eat. There is the same food value in a quart of beans, a bushel of potatoes or a pound of meat regardless of its price and farmers have the land, the labor and the skill to produce them.

In town, folks work for wages - that is, they trade their time and effort for cash. Some do right well at it. They earn enough to

make available all the advantages of both city and farm that they may need or want. But they are the exceptions. With many city folks, income just about balances outgo when times are good. When wages fall or prices rise or unemployment rears its ugly head, pinch, skimp and do without are the only alternatives for the city man until it's time for charity. His bath tub, his furnace, his nearby movie are of no help now. What he and his family must have is food.

On the farm, food can be available regardless of the vagaries of price fluctuations. Food on the farm need not be a product of income but of forward planning and well-directed energy. Economic tempests can wipe out the bank account but they need not wipe off the dinner table.

In dry areas a garden located below the windmill or at the foot of a dammed canyon can be irrigated in fall and spring, building up effective reserves against possible summer shortages of water. Even protection from grasshoppers is more nearly practical on small food-producing areas.

Of course farm families need cash - cash for many things, from taxes to gasoline. Bad times are tough times for all. When depression strikes, farm folks suffer the same as their city cousins but that suffering need not be in their stomachs.

My sister asked "Should we go back to the wilderness?" My answer again is "Yes". Not back to the coon-skin cap and muzzle-loading rifle but back to some of the principles of that period. The chief law of the wilderness is to depend on yourself and that must be the chief law of farming. First things come first in the wilderness too, and food is first there as everywhere.

Rescuing the family's \$500 food supply from the uncertainties of current income is not the only way to improve the farm situation but it is one of the important ways. The opportunity to adopt and use that method is one of the advantages that farmers have over us who live in town. --K. F. Warner

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The only hope of preserving what is best lies in the practice of an immense charity, a wide tolerance, a sincere respect for opinions not our own. --West Virginia Blue Book, 1939.

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Facts are our raw material. One has to dig deep for them because they are as difficult to get as they are precious to have. --Owen D. Young

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My countrymen are too much used to corn blades, and have too little knowledge of the profits of grass lands. --George Washington, 1782.

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BEEF CATTLE INVESTIGATIONS

Experiments carried on at the Agricultural Research Center showed that the progeny of one bull averaged 16.9 pounds of gain per 100 pounds of total digestible nutrients consumed, whereas the progeny of his three-quarter brother averaged 14.2 pounds, the difference being significant. The progeny sired by one bull dressed appreciably higher than those sired by the other bull. The former group also was fatter, on the average, and the meat contained a lower percentage of lean. However, the bone content was slightly higher and the intramuscular fat (ether extract) content definitely lower than for the group with the lower yield of carcass.

* * * Record-of-performance studies of Hereford cattle were continued at the United States Range Livestock Experiment Station, Miles City, Mont., in cooperation with the Montana Agricultural Experiment Station, to establish superior breeding strains of cattle particularly adapted to the western range country. Two years' results of fattening trials were completed in which steer calves sired by three rather closely related bulls were fed to an average weight of approximately 900 pounds on cracked corn and alfalfa hay. There were no apparent differences in type, conformation, or breeding among the three bulls. The results show that the progeny from one bull were significantly superior in efficiency of gain to the progeny of the others. His steer calves averaged 19.59 pounds of gain per 100 pounds of total digestible nutrients consumed; those of a second bull, 18.17 pounds; and those of the third bull, 18.06 pounds. Heifers sired by the first bull were 14.7 percent heavier at weaning time and 7.4 percent heavier at 18 months of age than those sired by the second bull, and 10.5 percent heavier at weaning time and 2.4 percent heavier at 18 months than those sired by the third bull. These results show the superiority in breeding performance of the first bull, notwithstanding the apparent similarity of the animals. * * *

In feeding experiments at Tifton, Ga., in cooperation with the Georgia Experiment Station and the Georgia Coastal Plain Experiment Station, steers fattened in dry lot on ground snapped corn, ground velvetbeans, and peanut hay gained 2.25 pounds per head daily, and returned \$1.09 per dollar invested, whereas those fed unhusked corn, whole velvetbeans, and peanut hay gained 2.11 pounds per head daily and returned \$1.08 per dollar invested. Others fed unhusked corn, cottonseed meal, and peanut hay gained 2.22 pounds and returned \$1.07 per dollar invested. A ration of cottonseed meal and hulls was the least satisfactory both in steer gains and in net returns. In this year's test, substituting molasses for one-fourth the corn fed gave a slightly better return than substituting molasses for half the corn but a slightly less favorable return than the ground-corn and velvetbean concentrates. * * *

--Report of the Chief of the Bureau of Animal Industry, 1938.

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ADVERTISING EVALUATION

(The following excerpts from an article by Harry H. Gould in the January 1939 issue of "Advertising and Selling" is reproduced here because of the application it has to extension teaching.--Ed.)

The major functions of an effective advertisement may be classified under the following five broad headings.

"1. The first of these functions is that of securing reader attention in competition with the other advertisements and editorial matter on its page and other pages of the publication in which it appears. An effective advertisement must have Attention Value.

"2. It is equally essential to effectiveness that the advertisement give up to the reader clearly, readily, and accurately the exact meaning which the advertiser wishes to convey. Meaning Value may therefore be designated as a second functional value.

"3. The effective advertisement must accomplish both of the above functions in such a way as to predispose the reader favorably toward the product or the idea that the advertiser is trying to sell. It must create a warm or pleasantly favorable positive attitude on the part of the reader, rather than to leave him emotionally neutral or cold. This third essential functional value may be called Feeling Value.

"4. Effectiveness, furthermore, requires that an advertisement make a sufficiently strong impression on the mind of the reader to insure its being retained until an opportunity is afforded or the proper time has arrived for the reader to respond to the suggestion it contains. It must have Memory Value.

"5. Even though an advertisement performs all of the above four functions well, it still is not completely effective unless it induces in the reader a definite impulse to act on the suggestions contained in it. The advertisement must have Action Value."

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* * * At Sni-a-Bar Farms a study was carried on in cooperation with the Bureau of Plant Industry and the Missouri station to determine the effect of pasture-management methods on gains of steers. Rotation grazing of bluegrass pasture, supplemented in midsummer with Korean lespedeza pasture, produced an average of 107.9 pounds of gain per acre. Unsupplemented bluegrass pasture, when grazed in rotation, produced only 71.8 pounds and when continuously grazed, only 64.2 pounds. The average gain per head was 70.6 percent more on the bluegrass with lespedeza supplement than on the other two pastures. * * * --Report of the Chief of the Bureau of Animal Industry, 1938.

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RECENT PUBLICATIONS

(This list is limited to publications of interest to extension workers. In most cases copies are available from the institution or agency issuing them. Do not write Washington for other than U.S.D.A. publications.)

Federal

"Estimated Production and Consumption of Federally Inspected Meats, 1938" - Mimeographed tables for each variety of product, issued by the Bureau of Agricultural Economics, U.S.D.A., Washington, D.C.

"Weight and Cost of Livestock Slaughtered under Federal Inspection, 1938" - Mimeographed tables by species of animals, issued by the Bureau of Agricultural Economics, U.S.D.A., Washington, D.C.

"A Graphic Summary of Farm Animals and Animal Products" by O.E. Baker, Bureau of Agricultural Economics, U.S. D.A., Washington, D.C. - Misc. Pub. No. 269, Feb. 1939, pp. 88, fig. 148.

"Effect of Changing Prices Upon Income to Land from Cattle and Sheep Ranching, as illustrated by Data for Montana, 1910 to 1936," by Marion Clawson, Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - Feb. 1939, pp. 26, tables and graphs. (Mimeo.)

"Income Parity for Agriculture, Part I. - Farm Income, Sec. 6, Income from Sheep and Lambs, Wool and Mohair - Years 1909-38" - Bureau of Agricultural Economics, U.S.D.A., Washington, D. C., March 1939, pp. 61, tables and graphs. (Mimeo.)

"Farm Production and Income from Meat Animals by States, 1937-1938" - Bureau of Agricultural Economics, U.S.D.A., Washington, D.C. - Apr. 1939, pp. 21, tables. (Mimeo.)

"Determination of Slaughter-Steer Grades from Weights and Measurements" by Bradford Knapp, Jr., Bureau of Animal Industry, U.S.D.A., Washington, D. C. - Circ. 524, May 1939, pp. 8., figs. 4.

"Relative Merits of Producing Creep-Fed, Feeder, and Lot-Fattened Calves in the Appalachian Region" by E. W. McComas and C.V. Wilson - Bureau of Animal Industry, U.S.D.A., Washington, D. C. - Tech. Bull. 664, Nov. 1938, pp. 11, tables 8.

"Diets of Families of Employed Wage Earners and Clerical Workers in Cities," by H. K. Stiebeling and E. F. Phipard, Bureau of Home Economics, U.S.D.A., Washington, D. C. - Circ. 507, Jan. 1939, pp. 141, tables 70.

"How to Keep and Increase Black Grama on Southwestern Ranges" by R. S. Campbell and Edward C. Crafts - Forest Service, U.S.D.A., Washington, D.C. - Leaflet 180, Jan. 1939, pp. 8, figs. 4.

"A Radio Handbook for Extension Workers," by John Baker, Office of Information, U.S.D.A., Washington, D. C. - Jan. 1939, pp. 15, mimeographed.

"Native and Adapted Grasses for Conservation of Soil and Moisture in the Great Plains and Western States," by M. M. Hoover, Soil Conservation Service, U.S.D.A., Washington, D.C. - Feb. 1939, pp. 44, figs. 24.

State

"Nutritional Studies with Cattle on a Grassland-Type Range in Arizona," by E.B. Stanley - Arizona Experiment Station Technical Bulletin 79, Nov. 1938, pp. 36, figs. 7.

"Managing Farm Flock Sheep for Greater Profit in Southern Idaho," by C.E. Favre and T. Dean Phinney - Idaho Experiment Station Bulletin 228, Mar. 1939, pp. 16, tables 8.

"4-H Club Work: Effect on Capability and Personal Quality," by D. E. Lindstrom and W. M. Dawson - Illinois Experiment Station Bulletin 451, Jan. 1939, pp. 69, tables 28.

"25 Years Stallion Enrollment in Indiana," - Indiana Experiment Station Circ. 240, Dec. 1938, pp. 52.

"Cattle Feeding, 1937-1938," by J.H. Skinner and F.G. King - Indiana Experiment Station Bulletin 433, Oct. 1938, pp. 12.

"The Pig from Birth to Market in Six Months," by Grady Sellards - Kentucky Extension Service Circular 211, rev., Dec. 1938, pp. 23, figs. 12.

"Livestock Shipping Associations," by A.A. Dowell and S. T. Warrington - Minnesota Experiment Station Bulletin 339, Nov. 1938, pp. 24, tables 15.

"Hog Health Makes Wealth," by H.G. Zavoral - Minnesota Extension Service Bulletin 119, rev., Apr. 1939, pp. 15, figs. 13.

"A Manual for Hog Raisers," by Wm. J. Loeffel - Nebraska Experiment Station Circular 40, Oct. 1938, pp. 52, figs. 17.

"4-H Beef Calf Club," by W. H. Tolbert - New Mexico Extension Service Circular 155, Aug. 1938, pp. 16, figs. 14.

"Sheep Production," by John P. Willman - New York Extension Service Bulletin 399, Jan. 1939, pp. 51, figs. 25.

"Facing Farm Facts - Food for the Family, Feed for the Livestock, Fertility for the Soil" by E. W. Gaither - North Carolina Extension Service Circular 235, Feb. 1939, pp. 11, tables.

"4-H Pig Club Manual," by Dan M. Arnold and F. W. Beall - Oklahoma Extension Service Circular 137, rev., 1939, pp. 15.

"Trench Silos," by E. R. Eudaly and M. R. Bentley - Texas Extension Service Bulletin 84, 1938, pp. 16, illus.

"Livestock Grading in Virginia, 1938" - Division of Markets, State Department of Agriculture, 1030 State Office Bldg., Richmond, Virginia.

"Reorganizing the Farm for Efficient Land Use," by R. J. Friant - West Virginia Extension Service Circular 322, Aug. 1938, pp. 15, illus.

Other

"Bang's Disease - A Study of the Bang's Disease Problem as it Relates to the Practical Operations of Range Cattle Producers" by F.E. Mollin, Secretary, American National Live Stock Association, 515 Cooper Bldg., Denver, Colo., Feb. 1939, pp. 32.

"The 1939 Belgian Review," published by The Belgian Draft Horse Corporation of America, Wabash, Ind., pp. 65, illus.

"How to Harvest the Farm Flock Wool Crop" - Bulletin No. 23, issued by Machinery Division, Chicago Flexible Shaft Co., 5600 Roosevelt Road, Chicago, Ill., pp. 19, illus.

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DR. KNAPP SAID -

"Your mission is to solve the problems of poverty, to increase the measure of happiness, to universal love of country add the universal knowledge of comfort and to harness the forces of all learning to be useful and needful in human society. The farm must be made a place of beauty, so attractive that every passing stranger inquires 'Who lives in that lovely home?'" --Seaman A. Knapp

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TOO TRUE

America has not yet come wholly to appreciate grass as a crop worthy of intensive cultivation and thoughtful management. She still regards grass as a tool to be used in erosion control instead of regarding erosion control as a result of grass establishment and for the value of the grass itself. -- P.V. Cardon, Asst. Chief, Bureau of Plant Industry, U.S.D.A.

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